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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,606	12/17/2001	Akira Okamoto	A-417	5084

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EXAMINER

POKER, JENNIFER A

ART UNIT PAPER NUMBER

2832

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/018,606	Applicant(s) OKAMOTO ET AL.	
	Examiner Jennifer A. Poker	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2001.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it contains implied phraseology including, "provided". Correction is required. See MPEP § 608.01(b).

### *Claim Objections*

4. Claim 1 is objected to because of the following informalities: the pronoun, "they" renders the claim ambiguous. The examiner requests that the pronouns be replaced with the noun/nouns in which they correspond. Appropriate correction is required.

5. Claims 15 and 16 are objected to because they recite the limitation "the inside". There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 112*

6. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. A couple examples are illustrated below:

- (a) Claim 2 – "...lead wires are formed respectively with using the metal layers which are different layers being mutually apart by one or more layers."
- (b) Claim 14 – "...it is possible to change at least one device constant of a resistor, a capacitor, and an inductor in the impedance element..."

Applicant is required to review all of the claims and make necessary corrections.

7. Claims 1, 2, 3, 8, 13 and 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claims 1 and 13, the applicant states, "...comprising two conductors...connected with each other at both odd ends..." It was not clear as to what the applicant meant by "both odd ends". It was understood by the examiner that one end of one conductor was connected to one end of the second conductor.

In claim 1, the applicant states, "...and a lead wire of this inductor conductor is led out through a gap between another conductor..." It was not understood if there was a third conductor, or if the inductor conductor was led out through a gap between the first conductor.

In addition, in claim 1, the applicant states, "...being near the substrate, and the substrate." The examiner did not know how to interpret this limitation.

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Referring to claim 2, the applicant states, "...metal layers are formed on the substrate, and the two conductors and the lead wires are formed respectively with using the metal layers which are different layers being mutually apart by one or more layers." It was not understood what the applicant meant by this limitation.

Referring to claim 3, the applicant states, "...the two conductors are connected at both odd ends..." It was understood by the examiner that one end of one conductor was connected to one end of the second conductor.

Referring to claim 8, the applicant states, "...both odd ends are mutually connected..." It was understood by the examiner that one end of one conductor was connected to one end of the second conductor.

Referring to claim 13, the applicant states, "...two conductors...are connected with each other...an end of the other conductor not connected to the inductor conductor..." The examiner did not know if there was a third conductor introduced, or if the "other conductor" was the conductor not being the inductor conductor.

Referring to claim 14, the applicant states, "...it is possible to change at least one device constant of a resistor, a capacitor, and an inductor..." It was not understood what the applicant meant by this limitation. Furthermore, it was not understood what the applicant meant by "to change at least one device constant". Because claims 15 and 16 were dependant on claim 14 incorporating similar limitations, those claims were not understood.

8. Claim 13 recites the limitation "the other conductor". There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 102*

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(a) The invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

10. Claims 1, 3, 4, 8, and 12 are rejected under 35 U.S.C. 102(a) as being unpatentable by U.S. Patent Number 6,144,269 to Okamoto, et al.

Okamoto, et al, discloses a noise filter, which is an inductive device, which would be easily mounted on a substrate; the device comprising:

- (1) A substrate (Column 2, lines 41-42)
- (2) A first dielectric sheet (Figure 1D) (Column 2, lines 43-58)
- (3) First and second spiral coil patterns formed on opposite surfaces of the first dielectric sheet, having substantially the same shape (Abstract) (Figure 1D) (Column 2, lines 43-58)
- (4) The first spiral coil pattern, formed of bonding a main circuit conductor having a function of inductors (Figure 1D) (Column 2, lines 43-58)
- (5) The second spiral coil patterns being formed from a conductive paste (Column 2, lines 43-58)
- (6) A through-hole located at the center of the coil, and through a portion of the dielectric sheet (Figure 1D) (Column 6, lines 46-48)
- (7) A connection with other patterns using a pin inserted through the through-hole. (Figure 1D) (Column 6, lines 46-48)

Furthermore, because the first spiral coil has functions of inductors, it is inherent that it comprises an inductance component, and the device produced distributed capacitances. (Column 2, lines 49-50)

*Claim Rejections - 35 USC § 103*

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2, 13, 17, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,144,269 to Okamoto, et al, in view of U.S. Patent Number 5,583,474 to Mizoguchi, et al.

Regarding claim 2, Okamoto, et al, discloses the claimed invention except for the metal layers.

Mizoguchi, et al, discloses a planar magnetic element comprising a semiconductor substrate a first magnetic layer arranged over the substrate, a first insulation layer arranged over the first magnetic layer, a planer coil formed of a conductor, having a plurality of turns, arranged over the first insulation layer, a second insulation layer arranged over the planar coil, and a second magnetic layer arranged over the second insulation layer.

One skilled in the art, at the time the invention was made would have found it obvious to combine the teachings of Okamoto, et al, with the teachings of Mizoguchi, et al, in order to create a

planar inductive device incorporating magnetic or metal layers as close to the coils as possible so that the layers may serve as cores.

Regarding claims 13 and 17, Okamoto, et al, discloses a noise filter, which is an inductive device, which would be easily mounted on a substrate; the device comprising:

- ((1)) A substrate (Column 2, lines 41-42)
- (2) A first dielectric sheet (Figure 1D) (Column 2, lines 43-58)
- (3) First and second spiral coil patterns formed on opposite surfaces of the first dielectric sheet, having substantially the same shape (Abstract) (Figure 1D) (Column 2, lines 43-58)
- (4) The first spiral coil pattern, formed of bonding a main circuit conductor having a function of inductors (Figure 1D) (Column 2, lines 43-58)
- (5) The second spiral coil patterns being formed from a conductive paste (Column 2, lines 43-58)

Okamoto, et al, discloses the claimed invention except for the impedance element.

Mizoguchi, et al, discloses a planar magnetic element comprising a semiconductor substrate, first and second planar coils, which can be integrated with active elements (e.g., transistors) and passive elements (e.g., resistors and capacitors), thereby constituting a one-chip semiconductor device. In other words, they help to provide small-sized electronic devices containing inductors and transformers.

One skilled in the art, at the time the invention was made would have found it obvious to combine the teaching of Okamoto, et al, with the teachings of Mizoguchi, et al to create a planar inductive device incorporating resistors or capacitors (impedance elements) in order to help provide small-sized electronic devices.



Regarding claim 24, Okamoto, et al, discloses that the first spiral coil has functions of inductors; it is inherent that it comprises an inductance component, and the device produced distributed capacitances. (Column 2, lines 49-50))

13. Claims 5-7, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,144,269 to Okamoto, et al.

Okamoto, et al, discloses the claimed invention except for the specific shapes of the conductors. It would have been an obvious matter of design choice to utilize different shapes, since applicant has not disclosed that long shapes, circular shapes, spiral shapes, linear shapes, or meander shapes solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any shape.

Referring to claim 11, the applicant admits on page 5, last full paragraph, and on page 6, lines 1-3, that it has been known in the art that when two conductors are made in spiral shapes, it is preferable to connect an inner end of one conductor with an outer end of another conductor in order to secure a larger inductance.

14. Claims 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,144,269 to Okamoto, et al, in view of U.S. Patent Number 5,583,474 to Mizoguchi, et al.

Okamoto, et al, in view of Mizoguchi, et al, discloses the claimed invention except for the specific shapes of the conductors. It would have been an obvious matter of design choice to utilize different shapes, since applicant has not disclosed that long shapes, circular shapes, spiral shapes, linear shapes, or meander shapes solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any shape.

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Referring to claim 23, the applicant admits on page 5, last full paragraph, and on page 6, lines 1-3, that it has been known in the art that when two conductors are made in spiral shapes, it is preferable to connect an inner end of one conductor with an outer end of another conductor in order to secure a larger inductance.

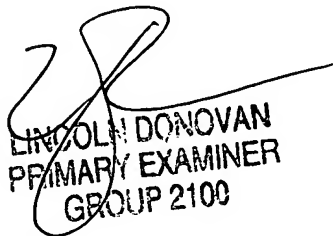
### *Contact Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Poker whose telephone number is 703-305-4037. The examiner can normally be reached on 6:00-3:30, Mon.-Fri. (alternating Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on 703-308-7619. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

jap  
February 21, 2003

  
LINCOLN DONOVAN  
PRIMARY EXAMINER  
GROUP 2100